SCANNED, #

FIG.1

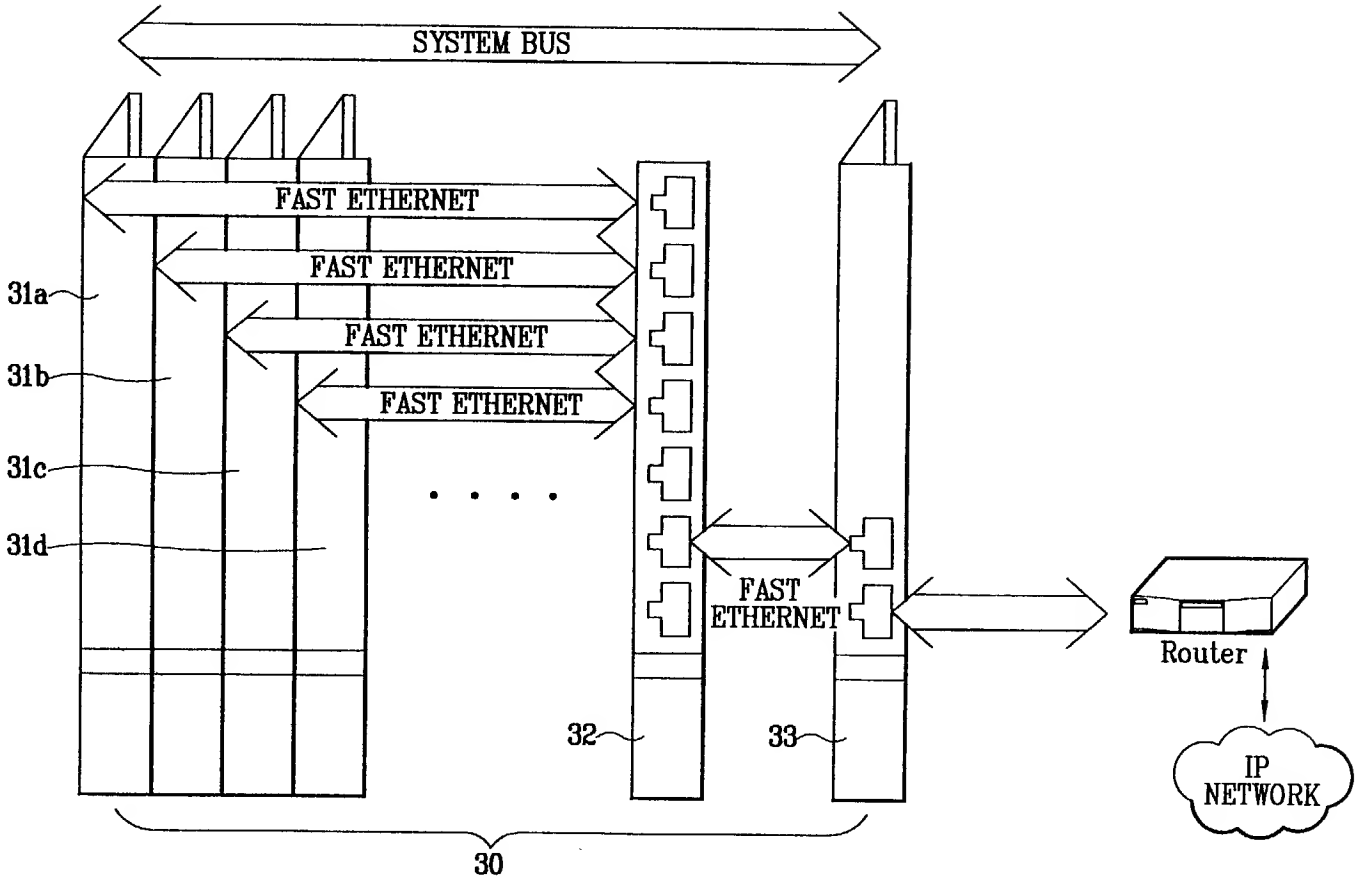


FIG.2

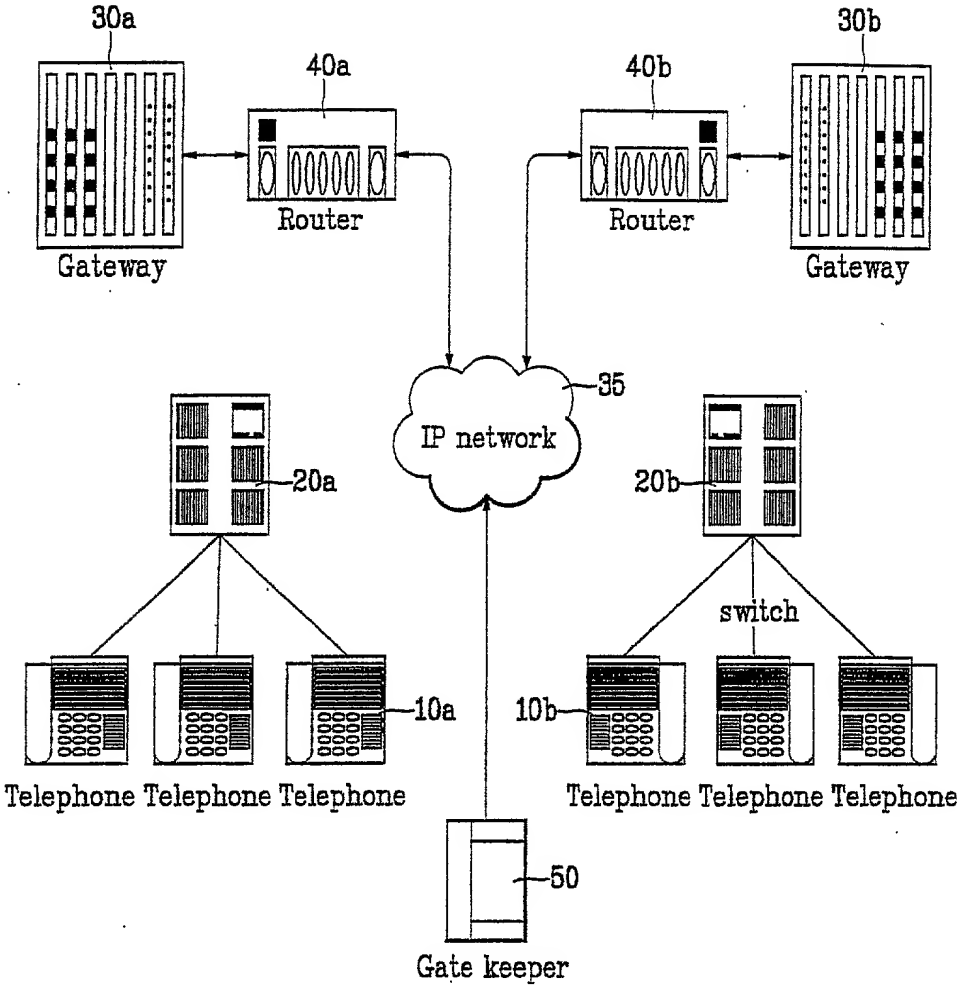

30a
40a
40b
30b
Router
Router
Gateway
Gateway
35
IP network
20a
20b
switch
10a
10b
Telephone Telephone Telephone
Telephone Telephone Telephone
50
Gate keeper

FIG.3

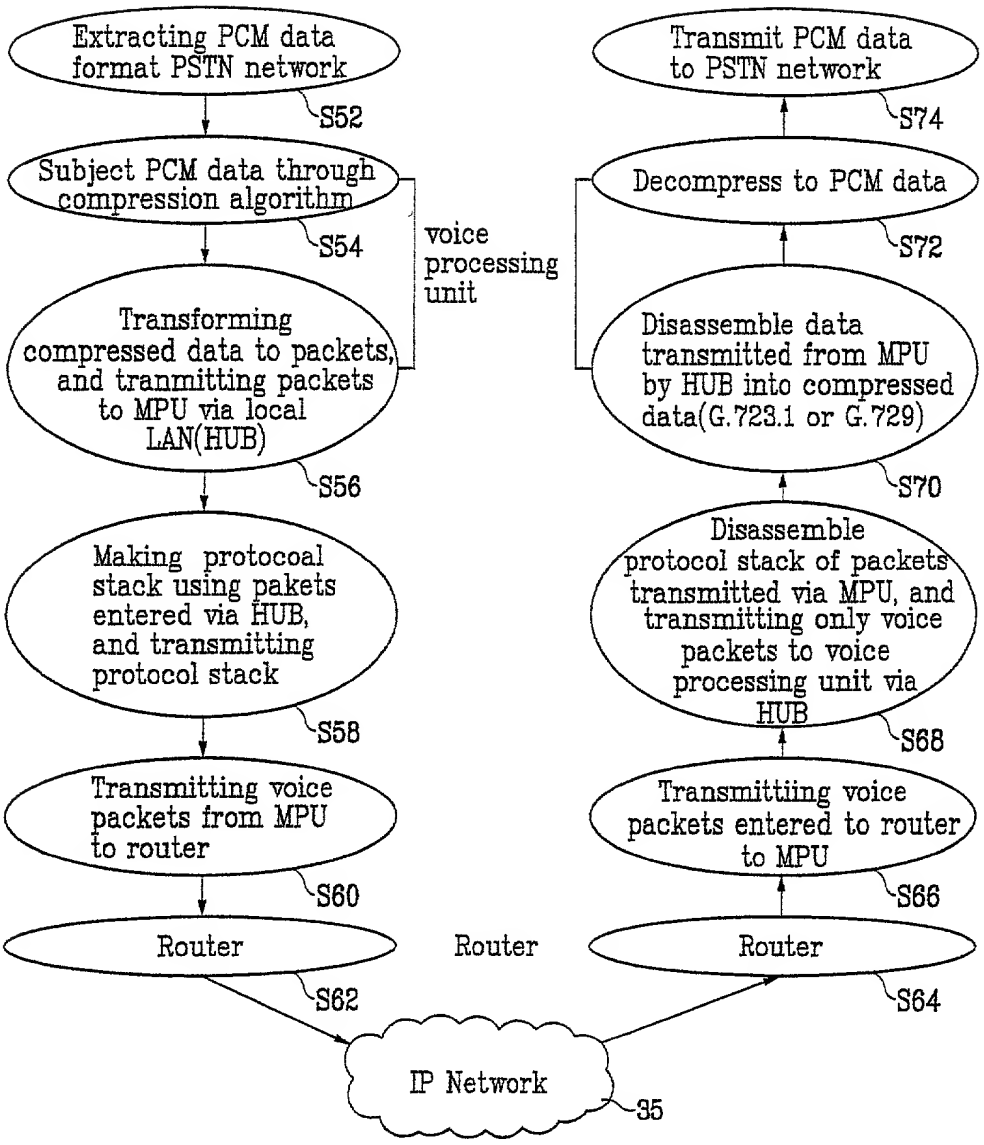

Extracting PCM data format PSTN network
S52
Subject PCM data through compression algorithm
S54
Transforming compressed data to packets, and tranmitting packets to MPU via local LAN(HUB)
S56
Making protocoal stack using pakets entered via HUB, and transmitting protocol stack
S58
Transmitting voice packets from MPU to router
S60
Router
S62
voice processing unit
Router
IP Network
35
Transmit PCM data to PSTN network
S74
Decompress to PCM data
S72
Disassemble data transmitted from MPU by HUB into compressed data(G.723.1 or G.729)
S70
Disassemble protocol stack of packets transmitted via MPU, and transmitting only voice packets to voice processing unit via HUB
S68
Transmittiing voice packets entered to router to MPU
S66
Router
S64

FIG. 4

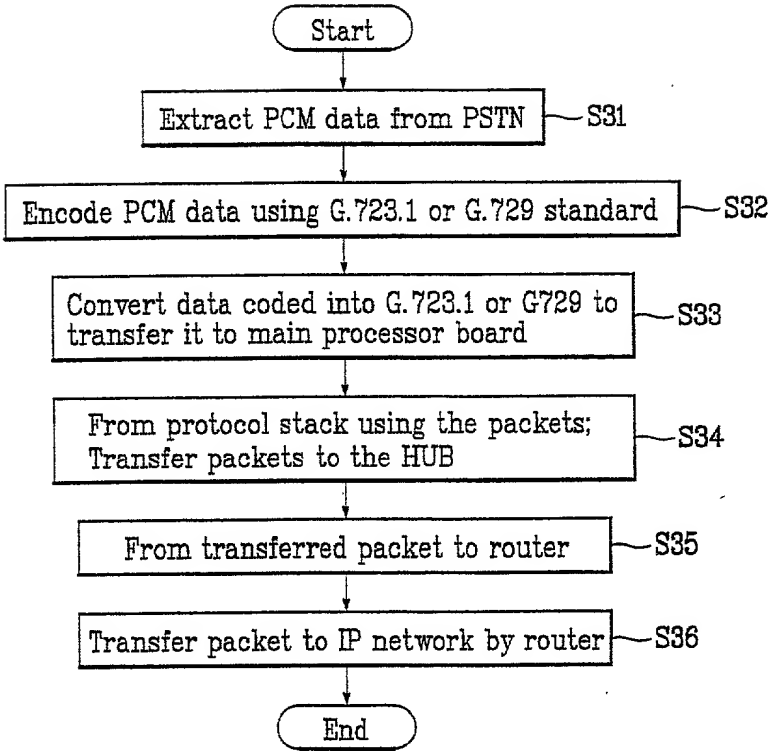

Start
Extract PCM data from PSTN
S31
Encode PCM data using G.723.1 or G.729 standard
S32
Convert data coded into G.723.1 or G729 to transfer it to main processor board
S33
From protocol stack using the packets; Transfer packets to the HUB
S34
From transferred packet to router
S35
Transfer packet to IP network by router
S36
End

FIG.5

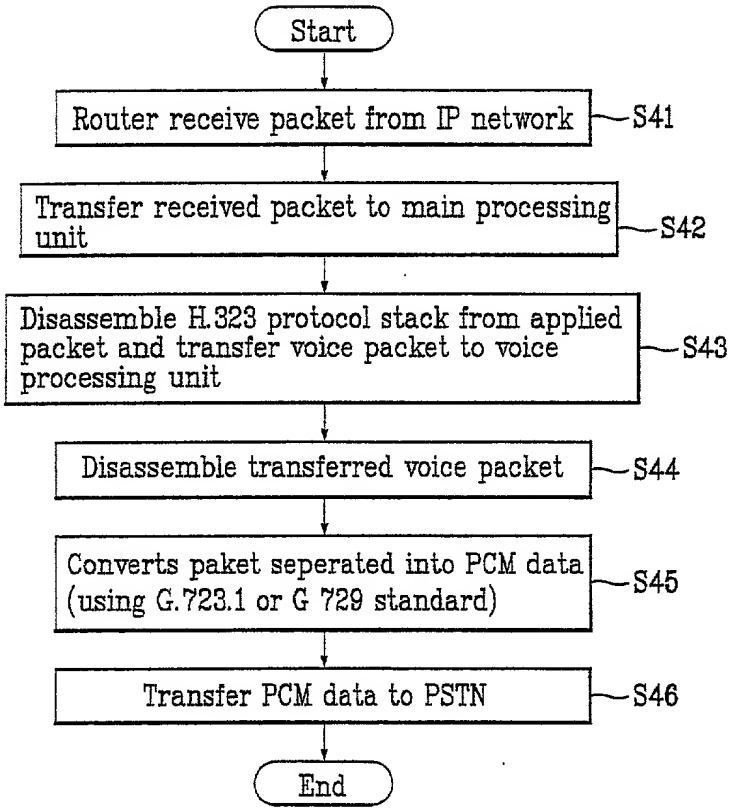

Start
Router receive packet from IP network
S41
Transfer received packet to main processing unit
S42
Disassemble H.323 protocol stack from applied packet and transfer voice packet to voice processing unit
S43
Disassemble transferred voice packet
S44
Converts paket seperated into PCM data (using G.723.1 or G 729 standard)
S45
Transfer PCM data to PSTN
S46
End

FIG.6

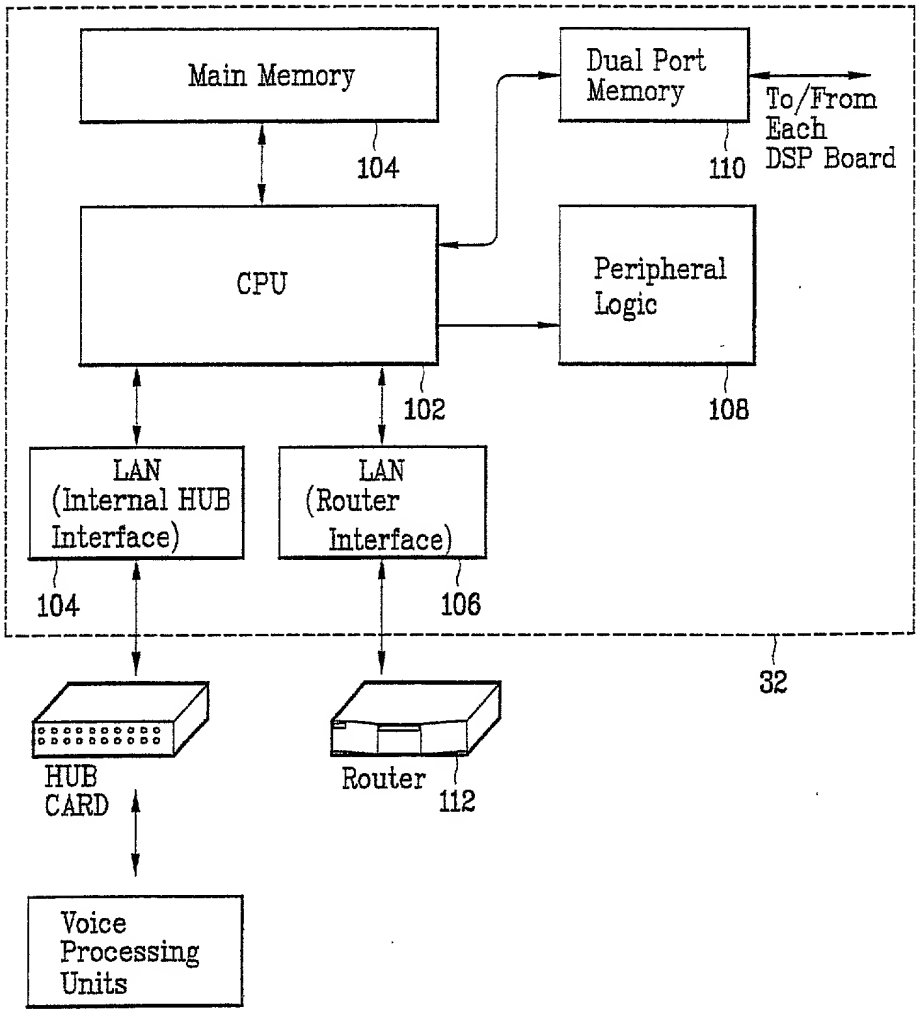

Main Memory
104
Dual Port Memory
110
To/From Each DSP Board
CPU
Peripheral Logic
102
108
LAN (Internal HUB Interface)
LAN (Router Interface)
104
106
32
HUB CARD
Router
112
Voice Processing Units

FIG. 7

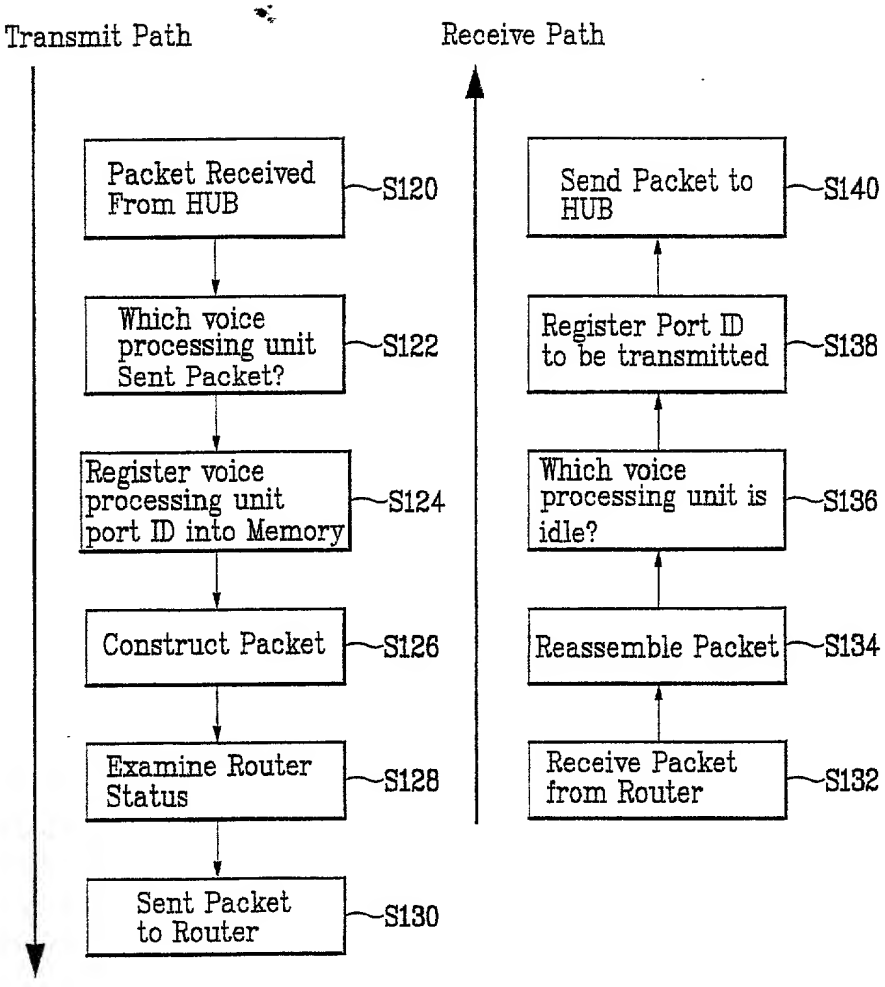
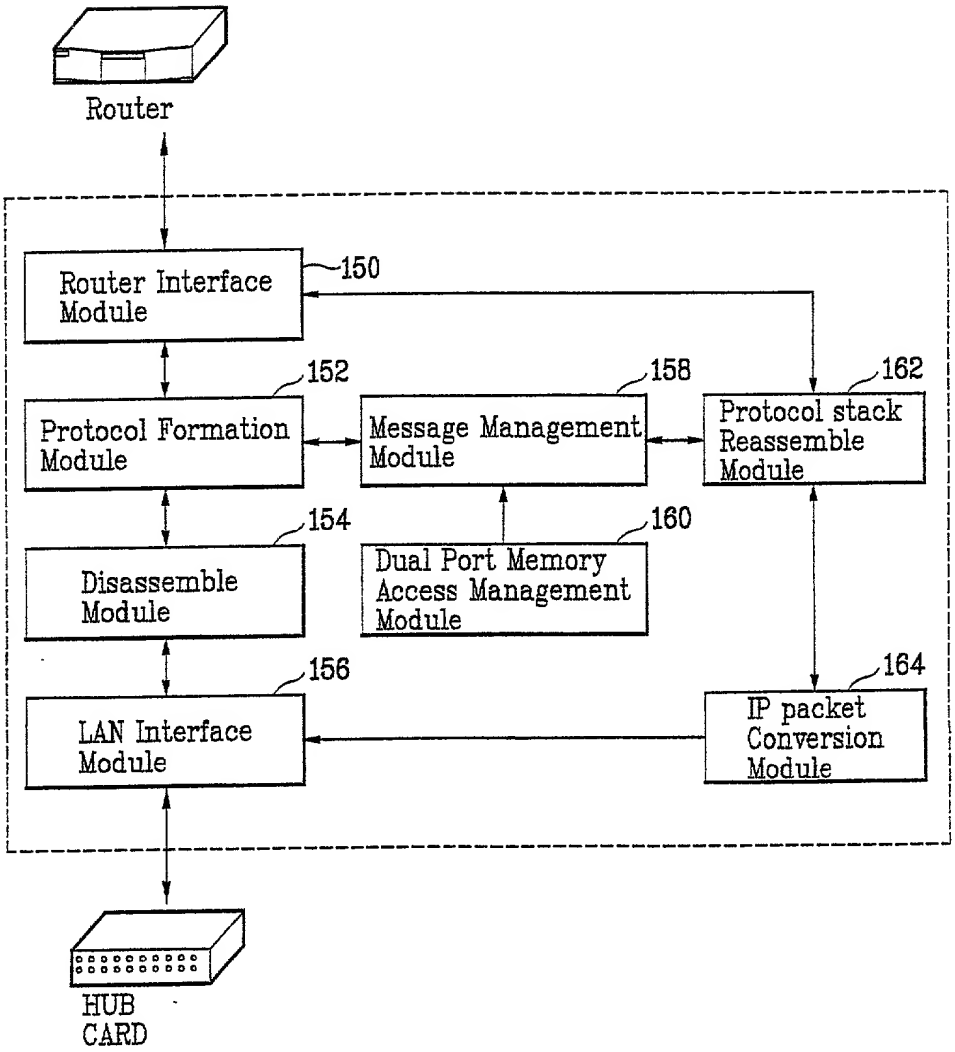

Transmit Path
Receive Path
Packet Received From HUB
S120
Which voice processing unit Sent Packet?
S122
Register voice processing unit port ID into Memory
S124
Construct Packet
S126
Examine Router Status
S128
Sent Packet to Router
S130
Send Packet to HUB
S140
Register Port ID to be transmitted
S138
Which voice processing unit is idle?
S136
Reassemble Packet
S134
Receive Packet from Router
S132

FIG.8


Router
Router Interface Module
150
Protocol Formation Module
152
Message Management Module
158
Protocol stack Reassemble Module
162
Disassemble Module
154
Dual Port Memory Access Management Module
160
LAN Interface Module
156
IP packet Conversion Module
164
HUB CARD